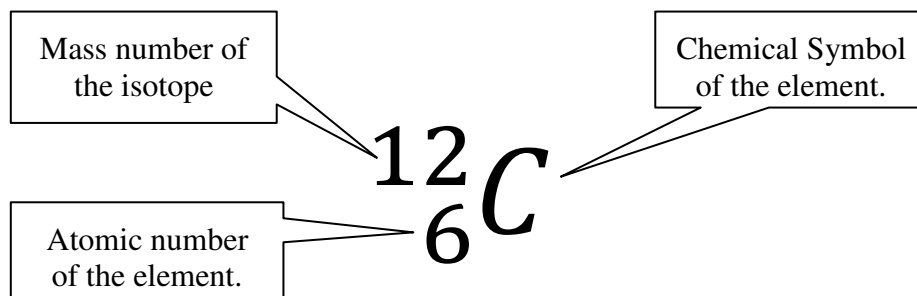


## Nuclide Symbols

Nuclide: the nucleus of a specific isotope of an element.

Nuclide Symbol: a shorthand way for telling what the composition of the nucleus of an isotope is.

Parts of a nuclide symbol:



This nuclide symbol describes the isotope, “carbon-12.” It has:

- 6 protons (atomic number of six)
- The element is carbon
- 12 total protons and neutrons (mass number)
- 6 neutrons (mass number – atomic number)

Translating between isotope names and nuclide symbols: (Fill in and take notes here as Mr. Y goes over this.)

Isotope Name	Nuclide Symbol
Carbon-12	$^{12}_6\text{C}$
Nitrogen-15	$^{15}_7\text{N}$

- Mass number in isotope name is same as mass number (upper number) in nuclide symbol.
- Use the periodic table to find:
  - atomic number of element
  - name of element
  - chemical symbol of element

Practice: Fill in the following table.

Isotope Name	Nuclide Symbol
Calcium-41	
Neon-22	
Boron-11	
	${}^{18}_8\text{O}$
	${}^7_3\text{Li}$
	${}^{19}_9\text{F}$

More Practice: Fill in the following table.

Isotope Name	Nuclide Symbol	Number of Protons	Number of Neutrons
Carbon-14			
Helium-3			
Aluminum-27			
	${}^{23}_{11}\text{Na}$		
	${}^{35}_{17}\text{Cl}$		
	${}^{55}_{26}\text{Fe}$		